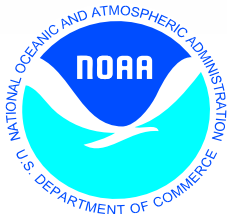


# VALLEY WEATHER WIND



**A Newsletter for Emergency  
Managers, Core Storm Spotters,  
Media, and Public Officials in  
Eastern Nebraska and  
Southwest Iowa**

Comments and suggestions  
are always welcome.  
Your feedback is  
very important to us!

Please contact us by telephone,  
e-mail, or regular mail.

**National Weather Service  
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**Winter 2006**

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## **Wow, What a Winter! But, It's Not Spring Yet Either**

*by Steve Schurr, Meteorologist in Charge*

Unusually mild weather has pleased most in eastern Nebraska and western Iowa this winter. However, moisture continues in rather short supply, and healthy snows and rain are needed to replenish soil moisture. The ice storm and blizzard in Nebraska and South Dakota November 27th and 28th got the season off to a nasty start. A cold spell followed through December 9th. Since then, temperatures have soared well above normal every day with moisture nearly nonexistent. January 2006 will go into the record books as the all-time warmest on record at both Omaha and Norfolk, with Lincoln tying the record set in 1933.

However, the winter season continues through March, so don't relax just yet. On average, more than a foot of snow falls in February, March and April. A wet late winter and early spring would certainly be welcome. A turn toward the cold side of normal is likely as we move through the remainder of February and March. So, watch the forecast and be willing take action to protect yourself if necessary.

Spring is less than 2 months away, and it's wise to note that some of the most powerful tornadoes on record have struck early in the year. A series of devastating twisters claimed 101 lives in Omaha and 67 more in nearby communities on Easter Sunday, March 23, 1913. An outbreak March 13, 1990 damaged Lawrence, NE; killed 3 near Hesston, Kansas; and also hit parts of Oklahoma.

Now is the time to get ready for the severe weather season and the dangers it presents. Actions taken weeks, months, and even years before a tornado strikes can make the difference between life and death! Storm spotter training sessions are now being scheduled.

I encourage you to take advantage of these training opportunities and attend a class near your location if possible. For a complete listing of the latest volunteer storm spotter classes that have been scheduled, please visit our website at <http://www.weather.gov/oax/>. We'll continue to have a listing in our "Top News of the Day" section located at the top of our page.

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## A Brief Overview of the Great Plains Blizzard of November 27th and 28th, 2005

by Daniel Nietfeld, Science and Operations Officer

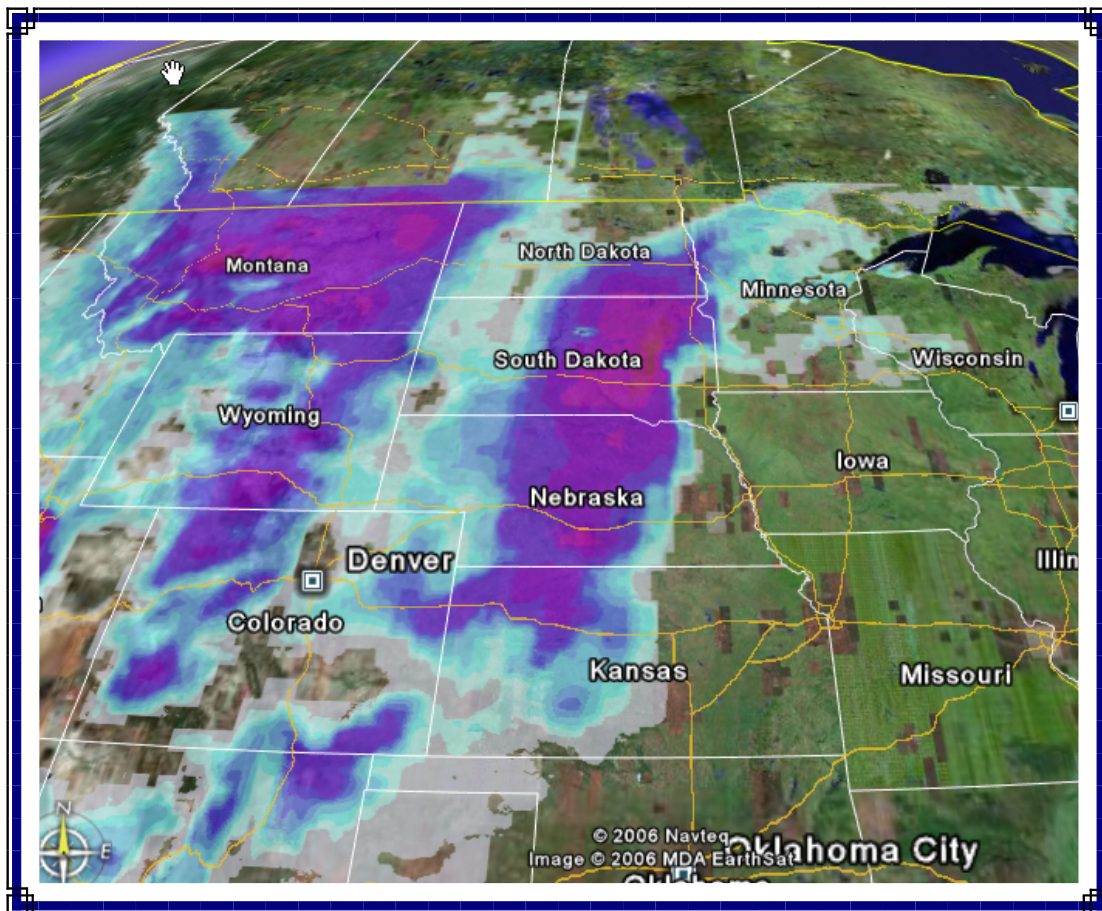
Thanksgiving weekend is one of the busiest travel weekends of the year. However, travel was severely impacted on that weekend this past fall, when on November 27th and 28th one of the largest and most powerful winter storms in recent years hit much of the central and northern plains.

The winter storm created widespread blizzard conditions, heavy icing, as well as severe thunderstorms. The map below shows the aerial extent of the resulting snowfall, and gives an idea of the size of this storm.

Blizzard conditions were observed from western Kansas into eastern North Dakota. Heavy accumulations of ice (up to 2 inches) coated the ground, trees, and power lines from northeast Nebraska into eastern sections of South Dakota and North Dakota, as well as western Minnesota. Severe thunderstorms occurred from southeast Nebraska and southern Iowa into the Gulf States, including a tornado outbreak in eastern Kansas.

The magnitude of this storm was unparalleled in decades, and resulted in hundreds of miles of major road closures, and damages likely exceeding 20 million dollars (excluding damages from the severe thunderstorms). Power outages were common, with some areas shut off from power for over 2 weeks. Snowfall amounts of 6 inches to nearly 2 feet were common from northeast and north central Nebraska into the southeast corner of North Dakota, however it was the wind that made this storm especially dangerous. Wind gusts over 60 mph were observed throughout the blizzard, which resulted in snow drifts 10 feet high.

This winter storm brought cold air into the plains, which provided a cold and snowy start to the winter season. However, only a few weeks later the winter weather pattern changed dramatically, transitioning to a mild and dry pattern with record warmth and nearly non-existent snowfall in January.



Depiction of snowfall for the November 27th and 28th Great Plains Blizzard.

## Winter Weather Products and Terminology

Even though we haven't had much winter lately, it's not out of the realm of possibility that we might still get some winter weather in February, March, or even April. Below you find some of the winter weather terminology that forecasters may refer to.

**Winter Storm Watch** - Alerts the public to the possibility of a blizzard, heavy snow, freezing rain, sleet, or a combination of these elements. These are issued well in advance of the event. A winter storm watch does not mean the event is imminent, but possible.

**Winter Storm Warning** - This is issued when a combination of heavy snow, freezing rain, sleet or heavy mixed precipitation is expected to combine with strong winds and/or very cold wind chill temperatures. Winter storm warnings are issued when the event is very likely or imminent, from zero to 36 hours in advance. These events can be severe and potentially life threatening.

**Blizzard Warning** - This is issued for considerable falling and/or blowing snow, with visibility less than 1/4 mile, and winds of 35 mph or greater. These conditions should persist for at least three hours. These events can be very severe and life threatening.

**Ice Storm Warning** - Issued when a heavy accumulation of ice, a quarter of an inch or more, is expected to occur in 12 hours or less. This is typically due to freezing rain.

**Heavy Snow Warning** - Issued for 6 inches of snow or more in 12 hours or 8 inches or more of snow in 24 hours.

**Wind Chill Warning** - Issued when wind chill temperatures are forecast to be 30 degrees below zero or colder, with a wind speed of at least 10 mph.

**Winter Weather Advisories** - Issued when snow, freezing rain or drizzle, sleet, or a combination of wintry elements are imminent or occurring. Advisories are issued for events which cause a significant inconvenience and are moderately dangerous. If a single element is expected, the advisory will normally be issued for that specific element.

**Wind Chill Advisory** - Issued when wind chill temperatures are forecast to be in the 20 to 30 below zero range for several hours or more, with a wind speed of at least 10 mph.

**Freezing Rain** - This is supercooled rain which is falling in liquid form. The precipitation freezes after it hits exposed surfaces, such as roads, trees, sidewalks, and windshields. This occurs because temperatures aloft are above freezing, but at the ground, they are below freezing. Freezing rain can be very hazardous, causing roads and sidewalks to be very icy. If there is enough accumulation, power outages may result.

**Freezing Drizzle** - This is similar to freezing rain, but the drops are smaller. Accumulations are less, but roads and sidewalks can still be very icy.

**Sleet** - Precipitation which often begins as snow and melts or partially melts and re-freezes before reaching the ground. Sleet is sometimes referred to as ice pellets. Sleet usually bounces when it hits the ground, and does not stick to objects. However, it can accumulate just like snow.

**Blowing Snow** - This is wind-driven snow that reduces visibility and causes significant drifting. Blowing snow may be snow that is currently falling, loose snow on the ground that is picked up by the wind, or a combination of the two. Blowing snow may be raised six feet or more by the wind.

**Snow Flurries** - Very light snow. No accumulation occurs.



## New Experimental Product for Severe Weather Season

*by Josh Boustead, Meteorologist*

One of the most important responsibilities of the National Weather Service is to issue warnings for severe weather to save lives and property. In a continuing effort to provide residents of eastern Nebraska and southwest Iowa with the best service possible, the National Weather Service in Omaha/Valley will begin producing an experimental product called the Warning Decision Update on April 1, 2006. This product will be issued as needed during severe weather with a product header of OMAAWUOAX and will be available over weather wire as well as on our Internet web page.

The National Weather Service has been issuing severe weather warnings since 1950. The information available to meteorologists with this task has been steadily increasing since that time including a better working knowledge of the atmosphere, better tools for sensing the atmosphere, and more advanced equipment to bring this wealth of information together for the

warning forecaster. Meteorologists integrate information from many sources when deciding to issue a severe thunderstorm or tornado warning, including radar and satellite images, surface observations and spotter reports, and information from all levels of the atmosphere.

The experimental Warning Decision Update product will allow meteorologists at the National Weather Service in Omaha/Valley, during severe weather, to pass along advanced warning decision information to our customers. The Warning Decision Update is intended to provide technical information about where thunderstorms may develop, what type of thunderstorms are likely to occur, what the warning forecaster is seeing on radar once storms develop, factors that may influence changes in future warnings decisions, or environmental changes that are expected to affect the evolution of the thunderstorms.

...THIS WARNING DECISION UPDATE CONCERNS NORTHEAST NEBRASKA...

SCATTERED THUNDERSTORMS ARE MOVING INTO KNOX AND ANTELOPE COUNTIES. THESE STORMS HAVE BEEN PRODUCING MAINLY HAIL OVER HOLT AND BOYD COUNTIES EARLIER THIS EVENING. THE ENVIRONMENT ACROSS NORTHEAST NEBRASKA APPEARS TO BE MORE FAVORABLE FOR THESE STORMS TO BECOME BETTER ORGANIZED. THUS THE THREAT OF DAMAGING WINDS MAY BE INCREASING ACROSS CEDAR AND PIERCE COUNTIES OVER THE NEXT TWO HOURS. THUNDERSTORMS FARTHER SOUTH OVER PLATTE AND BUTLER COUNTIES CONTINUE TO STRUGGLE TO DEVELOP. IT APPEARS THAT A STRONG CAPPING INVERSION WILL CONTINUE TO LIMIT DEVELOPMENT THROUGH THE EVENING HOURS AND WE ARE NOT EXPECTING THUNDERSTORMS IN THIS AREA TO BECOME VERY ORGANIZED.

## A Simple Act of Kindness

*by Betty Jo Addison, Administrative Support Assistant*

On the morning of January 23rd there was some dense fog and temperatures in the mid twenties at the Weather Office in Valley. The office is located about a half mile off Highway 275, which is widely traveled by those commuting into Omaha. Joni Brand, a Hydrometeorological Technician at the office, was working the early morning shift that day. At around 7 a.m. a very distraught woman came to the office and rang the door bell.

The woman had been driving down Highway 275 from Fremont, Nebraska to Omaha when suddenly the hood of her car flipped up on her. The speed limit on the highway is 65 mph. The vehicle sustained some damage, and the woman was unable to continue driving into work. When Joni let the woman in, she instantly asked her if she was OK. These simple words produced tears from the woman from the pure shock of what had just happened, and what could have happened. After calming the woman down, Joni helped her contact her husband who could assist her. An hour later, the woman was on her way and Joni went back to her normal daily routine.

Three days later, this same woman stopped by the office on her way to work. She brought a bouquet of flowers for Joni and two dozen donuts for the staff. A small act of kindness to show her appreciation to Joni for her assistance, during a time when the woman needed a helping hand. A simple act of kindness, followed by another. I hope it keeps catching on. If it would, the world will continue to be a better place!



## Cooperative Observer News

by Terry Landsvork, Observation Program Leader

With the snow season coming to an end across the Heartland later this spring, it will be time for cooperative observers with the 8 inch standard precipitation gage to install the 2 inch diameter tube and 8 inch funnel on their gages. Severe thunderstorms will unfortunately be developing at many locations this spring. Hail reports and wind damage reports should be logged on your B-91 forms. When it is safe to use the phone, please phone reports of dime size hail or greater and wind damage from thunderstorm winds or tornados to the NWS office in Valley on the toll free number.

A number of observer changes have occurred at COOP sites in eastern Nebraska and southwest Iowa over the past 12 months. Below is a listing of those observers leaving us and also those new observers coming on board.

<u>Site</u>	<u>Retired</u>	<u>Replacement</u>
Bloomfield	Clinton Bereuter	Jena McCardle
Hancock 7SE	(new station)	Maralee Klindt
Herman	Ray Moody	Christopher Booth
Niobrara	Larry Shaffer	Terry Zach
Orchard 9NE	Edward Sukup	Terry Strobe
Weston 3NW	(new station)	Gene Kros
Wymore	Mark Meints	Harold Seachord

Congratulations and many thanks are in order for the following dedicated cooperative weather observers that celebrated years of service milestones in 2005:

Gary Zimmer (Pierce, NE) 10 years, David Gibbons (Pawnee City, NE) 10 years, Calvin Nordmeyer (Seward, NE river observer) 10 years, Jerry Bunstead (Mapleton, IA river observer) 10 years, Frances & Irma Kreifels (Dunbar 4N,NE) 15 years, Lorraine Seier (Petersburg, NE) 20 years, John Frey (Albion 7W, NE) 25 years, Robert Brehm (Raymond 2NE, NE) 25 years, Helen Wilson (Randolph, IA) 25 years, Dennis Ekberg (Wayne 4N, NE) 30 years, Paul Burman (Wakefield, NE) 45 years.

Mr. Burman received the Dick Hagemeyer award (images below) commemorating his 45 years of outstanding volunteer work as a cooperative weather observer in Wakefield, Nebraska. A total of 8 National Weather Service employees (some are retired) made the trip to Wakefield November 18th to present Paul with the award in front of a large gathering of friends and neighbors at the Wakefield Community Center. Meteorologist Ron Demars from KTIV in Sioux City also participated in the ceremony and interviewed Paul for the evening's telecast. Paul phones observations into KTIV each day.



If you know of anyone who might be interested in becoming the cooperative observer at Oakland, Iowa, please contact us as soon as possible.

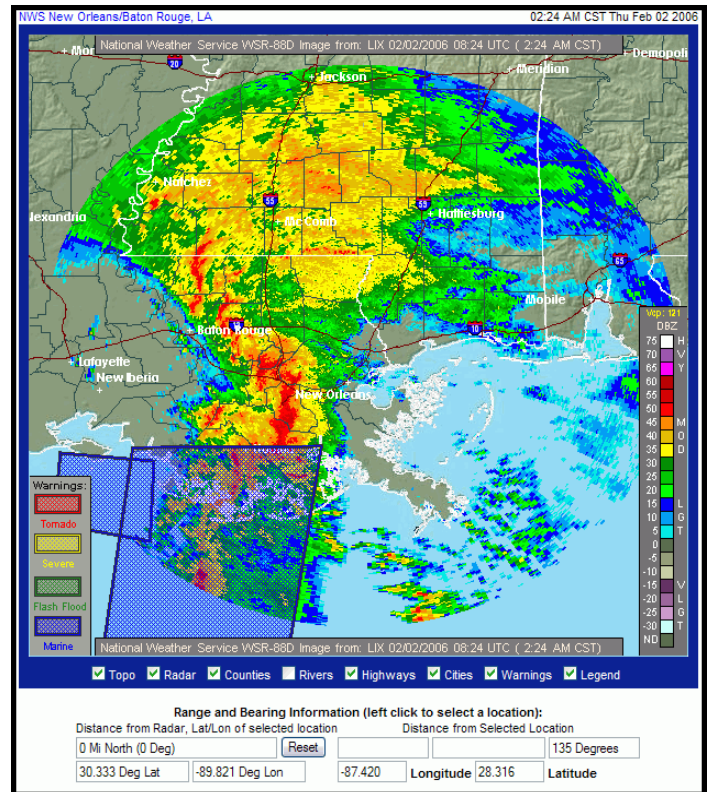
## New Enhancements to Radar Data on the Internet

By Van DeWald, Lead Meteorologist

In mid February, you'll see some enhancements to our radar data on the Internet. At that time, we'll be implementing our RIDGE application, which stands for Radar Integrated Display with Geospatial Elements. In other words, we'll be integrating feature-rich GIS data into the radar information that is currently available.

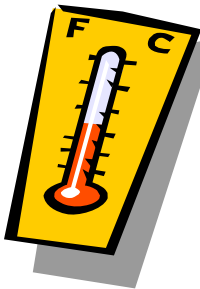
Users will have the ability to overlay roads, county boundaries, topographic images, rivers, and cities on top of the radar display. More importantly, the severe weather warning polygons will be available also, thus providing a complete suite of severe weather information.

This will be a more efficient method of displaying radar data than in the past, and will give the users the ability to customize the display to their needs. For more detailed information, please visit the NWS RIDGE page at <http://www.srh.noaa.gov/ridge/>. The changes should become official on February 22nd.



## Warmest January on Record

by John Pollack, Lead Meteorologist



January 2006 will go down as one of the warmest Januaries on record across most of eastern Nebraska and western Iowa. Actually it is "the" warmest January at both Omaha and Norfolk Nebraska, with Lincoln tying the previous warmest monthly record.

The average monthly temperature across the region was about 36.7°F, which was about 14 to 15 degrees above normal. Prevailing temperatures in January were more typical of the second week in March. Looking at it another way, temperatures were very comparable for much of central Oklahoma for this time of year, which is about 350 miles to our south.

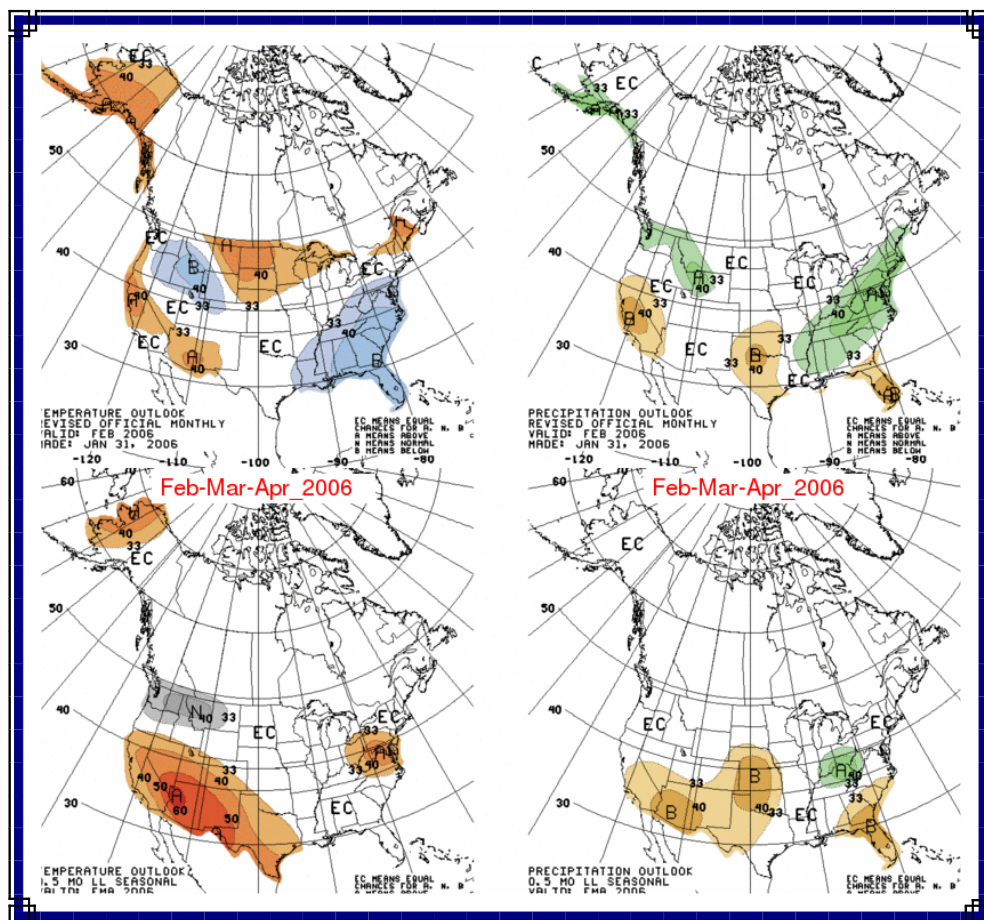
Several daily records were set during the month. A record high of 62 was recorded in Omaha on January 15th, and a record high of 69 was recorded in Lincoln on this same day. Norfolk reached a record high of 70 on the 15th, and also set a new record of 64 on the 11th. Several "high" minimum temperature records were also set during the month.

Perhaps the month was most remarkable for breaking an unbroken string of above normal temperatures. Every day of the month was at least 5 degrees above normal for most locations. The string of above normal temperatures began on December 21st and lasted for more than 45 days.

Not a lot of snow fell in January. Most locations only reported a trace of snowfall during the month. However, some rain did fall, most notably on January 28th when even a few thunderstorms developed. In fact, even some large hail developed and a handful of severe thunderstorm warnings were issued, which has never happened in January before either.

## Pattern Returning to Near Normal

Now that we've experienced a record warm January, it appears that the jet stream pattern may be shifting. This would allow for a return to near-normal conditions for the Central Plains for the remainder of the winter. The latest long-lead outlooks from the Climate Prediction Center still call for above normal temperatures across much of the Northern Plains for February (top left in the image below), but for equal chances of above or below normal temperatures for the 3-month period of February, March and April 2006 (bottom left). For precipitation, the climate Prediction Center has indicated that there are equal chances for above or below normal precipitation for February (top right), but there seems to be a clear signal that we may experience below normal precipitation through the 3-month period through April (bottom right).



## New Climate Data Available on the Internet

We often receive frequent requests for weather data, such as what was the temperature on a specific day, how much rain fell for a given location, and so forth. Some of this information is already available on our website for the primary climate stations at Omaha, Lincoln, Norfolk, Valley, Falls City, and Tekamah at <http://www.weather.gov/oax/>. However, beginning February 1st, data from about 50 of our COOP weather observer sites will also now be available. You'll be able to view daily data, monthly averages and totals, monthly and daily extremes, etc.

For more detailed climate information, please visit our local climate page on our Internet webpage at <http://www.weather.gov/climate/xmacis.php?wfo=oax>. You may also visit the website for the High Plains Regional Climate Center (for Nebraska) or the Midwestern Regional Climate Center (for Iowa) by linking to the following Internet page: <http://lwf.ncdc.noaa.gov/oa/climate/regionalclimatecenters.html>. Of course, official certified climate data may also be obtained from the National Climatic Data Center in Asheville, North Carolina by visiting their Internet site at <http://www.ncdc.noaa.gov/>.

## Climatological Data

compiled by Steve Klemm, Hydro Meteorological Technician

### Climatological Data for October, November, and December 2005

Location	Month	Average	Departure	Rain / Snow	Departure	Highest	Lowest
Omaha	Oct	55.0°	+1.8°	0.75" / 0"	-1.46"	92° (4th)	24° (25th)
	Nov	42.6°	+4.6°	1.04" / 4.1"	-0.78"	82° (2nd)	11° (16th)
	Dec	24.4°	-1.2°	0.81" / 5.4"	-0.11"	54° (22nd)	-8° (6th)
Lincoln	Oct	54.9°	+1.4°	2.76" / 0"	+0.82"	94° (2nd)	24° (25th)
	Nov	42.2°	+4.1°	2.03" / 2.9"	+0.45"	81° (2nd)	13° (16th)
	Dec	24.7°	-1.8°	0.52" / 6.0"	-0.34"	58° (22nd/20th)	-10° (9th)
Norfolk	Oct	53.9°	+2.9°	2.62" / 0"	+0.90"	94° (3rd)	22° (25th)
	Nov	40.7°	+5.6°	2.15" / 12.6"	+0.71"	83° (2nd)	7° (16th)
	Dec	23.5°	-0.2°	0.49" / 3.3"	-0.16"	55° (22nd)	-10° (6th)

### Normal High/Low Temperatures

### 2005 Annual Year-End Climate Data

Location	Feb1	Mar 1	Apr 1	May 1	Omaha	Lincoln	Norfolk
Omaha	34/14	44/23	58/34	69/45	<b>Temperature</b> 52.9°/+2.2° <b>Precipitation</b> 23.43"/-6.79" <b>Snowfall</b> 29.5"	52.8°/+1.7° 24.59"/-3.78" 24.0"	51.7°/+3.0° 26.17"/-0.49" 25.6"
Lincoln	35/13	45/22	58/33	69/45			
Norfolk	33/12	42/20	55/31	67/43			

## Astronomical Calendar

### Sunrise/Sunset ([http://aa.usno.navy.mil/data/docs/RS\\_OneYear.html](http://aa.usno.navy.mil/data/docs/RS_OneYear.html))

	Omaha		Lincoln		Norfolk		Times are given in cst (Central Standard Time), and cdt (Central Daylight Time), as appropriate.
Date	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset	
Feb1	7:35 am cst	5:40 pm cst	7:37 am cst	5:44 pm cst	7:43 am cst	5:44 pm cst	
Mar 1	6:59 am cst	6:14 pm cst	7:01 am cst	6:18 pm cst	7:05 am cst	6:20 pm cst	
Apr 1	6:07 am cst	6:48 pm cst	6:11 am cst	6:51 pm cst	6:13 am cst	6:55 pm cst	
May 1	6:21 am cdt	8:21 pm cdt	6:26 am cdt	8:23 pm cdt	6:26 am cdt	8:28 pm cdt	

### Moon Phases

New Moon	First Quarter	Full Moon	Last Quarter
Jan 29	Feb 5	Feb 12	Feb 21
Feb 28	Mar 6	Mar 14	Mar 22
Mar 29	Apr 5	Apr 13	Apr 20
Apr 27	May 5	May 13	May 20

#### Spring Equinox (Start of Spring):

March 20 at 12:26 pm cst

#### Daylight Savings Time Begins:

Sunday, April 2nd at 2:00 am local time - turn clocks ahead one hour.